INTRODUCTION

Mark Berends, Susan Bodilly, Sheila Nataraj Kirby

Spurred by the piecemeal approach to school reform that had produced little change in the nation's test scores, New American Schools (NAS) launched its efforts for whole-school reform in 1991. This initiative was based on the premise that high-quality schools are established with external providers (design teams) providing assistance to schools for implementing designs.

> A Design Team is an organization that provides high-quality, focused, ongoing professional development for teachers and administrators organized around a meaningful and compelling vision of what students should know and be able to do. The vision, or design, offers schools a focus for their improvement efforts, along with guidance in identifying what students need to know and be able to do and how to get there. (NASDC, 1997, p. 6.)

The mission of NAS was to help schools and districts significantly raise the achievement of large numbers of students with whole-school designs and the assistance design teams provide during the implementation process. To make this goal a reality, NAS initially organized its work into several phases: a competition phase to solicit proposals and select designs; a development phase of one year to develop the ideas in the proposals in concrete ways; a demonstration phase of two years to pilot the designs in real school settings; and a scale-up phase in which the designs would be widely diffused in partnering jurisdictions across the nation.

Over the last ten years, RAND has been providing analytic support to and monitoring the NAS initiative. During this time period, RAND

documented the NAS efforts in order to assess its contributions to education reform; described the designs and analyzed changes in them over time; assessed the level of implementation in design-based schools during the demonstration and scale-up phases; identified factors that impeded or encouraged implementation in the demonstration and scale-up phases; and measured whether the adoption of the designs resulted in the outcomes desired by the partner districts in the scale-up phase. The results of these efforts are contained in a series of reports, listed in the Preface.

The purposes of this study are to provide a retrospective look at the NAS initiative and the RAND analyses of that initiative; to draw together the findings from RAND research conducted over the course of a decade; and to reflect on lessons learned from the unfolding and maturing of NAS. The book helps highlight the significant contributions made by NAS to the reform debate and to actual reform in schools. It also highlights the complexities and challenges of trying to reform schools through whole-school designs and provides a timely warning to the policymakers and practitioners looking to significantly raise student performance through the adoption of externally provided interventions.

This introduction sets the context for the remainder of the report. It provides a brief overview of NAS, its intentions, and RAND's analytic role in understanding and assessing NAS's progress toward its goals. More detail about NAS is provided in Chapter Two, while Chapter Three examines the evolution of the designs. In this chapter, we also outline the conceptual framework that guided the RAND work, along with brief descriptions of the individual research analyses done by RAND, the methodologies used, and the limitations of our approach. Because the work represented here took place over many years and had many distinct tasks, a separate appendix is included that covers in detail methodologies for each task.

AN OVERVIEW OF NAS

In July 1991, in conjunction with President Bush's America 2000 initiative, the New American Schools Development Corporation (NASDC) was established as a nonprofit corporation funded by the private sector to create and support design teams capable of helping

existing elementary and secondary schools transform themselves into high-performing organizations by using "whole-school designs."

Its core premise, taken from the effective schools literature, was that all high-quality schools possess a de facto unifying design that allows all staff to function to the best of their abilities and that provides a consistent and coherent education instructional program to all students.[1] NAS posited that designs could be created for schools that would, if adopted, help schools improve their students' performance. The best way to create "break the mold" school designs was to invest in talented teams of innovators. Then, NAS thought, schools across the country would adopt the designs. It referred to this adoption by schools nationally as "scale-up," indicating large numbers of schools adopting NAS designs was an important goal.

The NAS effort was, and still is, a dramatically different way of initiating and disseminating large-scale educational improvement. From the outset, NAS's vision was of a large scale-up effort to transform thousands of schools, not just a handful. Not only did the emphasis on eventual scale-up set it apart, but so too did the involvement of the private sector and the choice of school designs as the vehicle for reform. This scale of private sector involvement was unique in K–12 education as was the venture capital notion of deliberate development of designs. Prior to this, the private sector contributions to educational reform were often relatively small amounts of funding or materials to individual schools in "partnership" programs to help promote specific activities such as reading or science. To a large extent, this is true of many private sector reform efforts even today.

In short, the NAS initiative could be viewed as an innovative approach to school reform as an experiment. Given its unique approach based in business principles, the announcement of its creation caused some commentary. Opinions were divided about the value of a private sector reform initiative, as the following quotations demonstrate:

_____

[1]See Purkey and Smith (1983).

> It is wrong-headed to suggest that the greatest problem in education is not knowing what to do and that we must wait for privately-funded design teams to come up with ideas. (Timpane, 1991, pp. 19–20.)

> I cannot comprehend why the Secretary and the President consider a private research effort to be the centerpiece for system changes for the most important function of government—education. (Ambach, 1991, p. 39.)

> Schools are highly constrained by various laws, regulations, non-government policies (e.g., SAT and the Carnegie units), and organizational rigidity. The New American Schools Development Corporation is needed to break loose from these impediments. (Kirst, 1991, p. 38.)

To make its goal of improving student achievement a reality, NAS initially organized its work into several phases (see Figure 1.1):[2]

- A competition phase to solicit proposals and select designs;

- A development phase of one year to develop the ideas in the proposals in concrete ways;

- A demonstration phase of two years to pilot the designs in real school settings; and

- A scale-up phase in which the designs would be widely diffused in some as yet unspecified fashion.

NAS selected 11 teams with unique associated designs in its competition phase. After a year of further development, NAS funded nine of the 11 teams to demonstrate and implement whole-school designs in real schools during the school years 1993–94 and 1994–95. During this time, the number of NAS schools grew to 147. From 1995 to

_____

[2]A more detailed description of the history of the NAS initiative and the design teams appears in Bodilly (1998), Glennan (1998), and Stringfield et al. (1996). See also Desimone (2000), Herman et al. (1999), Ball et al. (1998), Stringfield and Datnow (1998), Datnow and Stringfield (1997), Ross et al. (1997, 1998). For descriptions of NAS and the design teams on the Web, see http://www.newamericanschools.org, which has links to each design team's website.
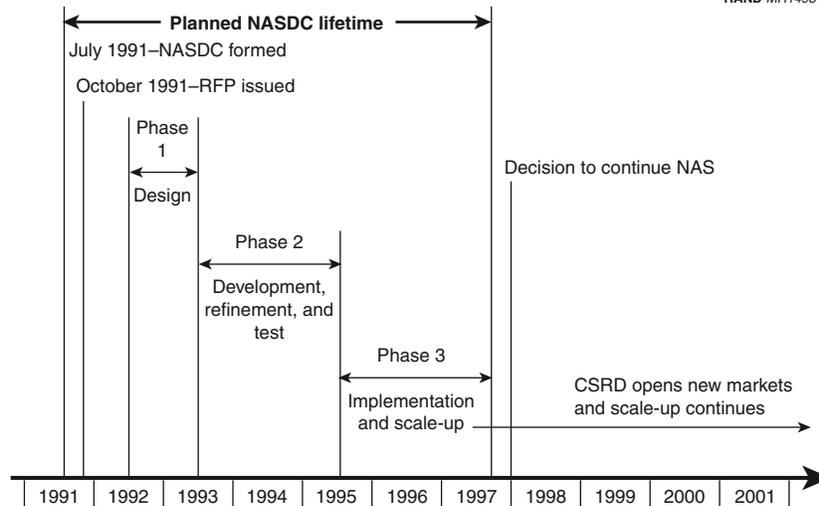
Figure 1.1—Original Schedule for New American Schools Program, 1991

1998, NAS led a scale-up phase in ten jurisdictions across the country. More details of this initiative are contained in the following chapter, so we do not cover them here. Table 1.1 summarizes the growth pattern of NAS for the reader.

After the scale-up phase, the NAS Board decided not to go out of business, but rather to transition NAS into a new organization. It currently has ten primary design teams working for the improvement of whole-school reform efforts and their successful adoption nationwide. It has brought more designs under its network; reportedly, its designs are now associated with over 4,000 design-based schools.

RAND'S PURPOSE AND ANALYTIC TASKS

The NAS effort offered an unprecedented opportunity to study and understand a dramatic attempt at school reform—one based in an experimental approach of research and development, demonstration, and scale-up. Analyzing the initiative could potentially provide

Table 1.1

Phases of NAS

Phase	Time	Purpose	Design Teams	Number of schools	Jurisdictions
Competition	Oct. 1991–July 1992	Develop and field RFP; choose teams to develop designs	More than 600 applicants		
I. Development	July 1992–July 1993	Allow teams one year to further develop designs for implementation	11 teams[a]	Handful; most not working in schools in this time period	National Alliance team partners with jurisdictions
II. Demonstration	July 1993–July 1995	To implement designs in schools to show what can be done and to work out implementation issues	9 teams[a]	147 schools	Only National Alliance districts
III. Scale-up	July 1995–July 1998	To spread designs within districts to create districts where good schools are the norm	7 teams[a]	Begin with about 550 schools nationwide and end with over 1,000; 184 schools in partnering jurisdictions	Cincinnati; Dade; Kentucky; Maryland; Memphis; Philadelphia; Pittsburgh; San Antonio; San Diego; 3 districts in Washington state
IV. Planned Phase-out	July 1998	Original plan called for NASDC to go out of business; Board and design teams support continuation of NAS			
At present	July 1998–2001	To promote comprehensive school reform and to provide venture capital for new teams	10 teams[a]	4,000 by 2001	National

[a]Teams are listed in Chapter Two.

significant policy lessons for those involved in educational reform. NAS asked RAND to provide such a broad ranging and long-term analysis of its ambitious school reform initiative. This early involvement of an outside, third party to provide analytic support was another uncommon approach, but one in keeping with NAS's business approach of gathering information to improve quality over time.

As Fullan (2001) points out, any educational reform must have two components, a theory of learning and a theory of action. NAS had no formal, explicit theory of learning; rather NAS intended each design team to create its own specific theory of learning and imbue it with life through the design and materials supporting the design. Each of these designs was to be "research based" or use proven educational principles. Each design team was responsible for the development, and evaluation of its own theory of learning. RAND was not to address these issues per se.

NAS's initial theory of action was quite simple. After design teams developed designs, they would interact with schools, in some unspecified way. Schools would adopt the designs and, by adoption, improve student performance. It was that simple.

RAND's mission was to concentrate on the theory of action—to analyze whether and how teams were making progress toward NAS goals of school adoption and eventual student performance improvements. From 1991 to 1999, RAND provided analytic support primarily intended to document NAS's progress toward its goals. RAND's research tasks were broadly defined:

- Document the NAS efforts to assess its contributions to education reform;

- Describe the designs and analyze changes in them over time;

- Assess the level of implementation in design-based schools during the demonstration and scale-up phases;

- Identify the factors that impede or encourage implementation in the demonstration and scale-up phases; and

- Measure whether the adoption of the designs results in the outcomes desired by the partner districts in the scale-up phase.

CONCEPTUAL FRAMEWORK FOR UNDERSTANDING IMPLEMENTATION AND PERFORMANCE IN NAS SCHOOLS

The conceptual framework that guided RAND research on implementation and performance had as its theoretical underpinnings the literature on external change agents. These are groups outside of the hierarchy of the school systems that attempt to bring about meaningful change in schools. This is the model that NAS adopted.

External Change Agents and School Improvement

Attempting to fundamentally change the behaviors and tasks of an existing organization is one of the most difficult reforms to accomplish. This is especially true when multiple levels of government are involved; when significantly different behaviors are called for; when the tasks and behaviors are those of a large and diverse group; and when these actors have varying incentives to change (Mazmanian and Sabatier, 1989).

These conditions all apply to the NAS initiative. Implementation of a design created by an external agent (the design teams) in a school involves federal, state, and local governments, the design teams, and multiple other actors. Being "break the mold," design adoption could be expected to require significantly different sets of behaviors on the part of students, teachers, principals, and administrators. Those groups respond to and are driven by many varying incentives, rules, and regulations inherent in the infrastructure of schools and schooling (Gitlin and Margonis, 1995; Cuban, 1984; Huberman and Miles, 1984).

Many previous studies of implementation of school reform have highlighted that local capacity and will are ultimately the two factors that determine successful implementation:

> Policy makers can't mandate what matters most: local capacity and will . . . . Environmental stability, competing centers of authority, contending priorities or pressures and other aspects of the social-political milieu can influence implementor willingness profoundly. . . . Change is ultimately a problem of the smallest unit. (McLaughlin, 1987, pp. 172–173.)

What is often true, however, is that attempts at implementation lead to "mutual adaptation" with local educational agencies, school staff and intermediaries changing behaviors in significant ways (Berman and McLaughlin, 1975). As McLaughlin put it "Local variability is the rule; uniformity is the exception" (1990, p. 13). The original users of the term "mutual adaptation" meant to invoke a benign or positive process of movement toward mutually agreed-upon goals with the intervention changing for the better in some sense so as to support those goals.

Others have found that adaptation does not always lead to enhancement of the original policy, or necessarily promote the desired performance outcomes. These less-benign effects have been categorized in different ways as unanticipated consequences, policy disappearance, policy erosion, policy dilution, policy drift, or simply poor or slowed implementation (Cuban, 1984; Pressman and Wildavsky, 1973; Daft, 1995; Mazmanian and Sabatier, 1989; Weatherley and Lipsky, 1977; Yin, 1979).

It is often the case that these less-desirable outcomes occur because policymakers do not put in place needed support mechanisms or change the supporting infrastructure to help the external agent implement the intervention. McDonnell and Grubb (1991) make clear that successful implementation of any educational mandate, whether by an external agent or by the school itself, requires support of the implementers, capacity on their part to follow the mandate, and some enforcement or incentives to support compliance. The building of capacity requires the infusion of resources in terms of time, funding, and information—either social or intellectual. These resources are often referred to as "slack" or "slack resources" without which reform cannot be successfully undertaken. Capacity cannot be mandated, but must be built with slack resources.

The education literature does point to important supports that if provided, often lead to implementation closer to that expected by policymakers (fidelity). These conditions include (McLaughlin, 1990):

• Active participation and support of district leadership, including the removal of conflicting priorities and initiatives;

- Funding to get the initiative under way and indicate its importance;

- Understanding by stakeholders and implementers of the intervention and its intended effects gained through clear communication;

- Specific attention and assistance for implementation, such as:

  — Concrete and specific teacher training including classroom assistance by local staff;

  — Teacher observations of similar projects in like settings;

  — Stakeholder acceptance of the initiative and participation in project decisions and regular project meetings focused on practical issues; and

  — Local development of project material.

Implementation is a progressive activity, with full implementation sometimes only evident after several stages of activity (Mazmanian and Sabatier, 1989; Yin, 1979). This phenomenon occurs in part because of the developmental nature of some interventions, but it can also be due to the cycles of political support and interest that come and go depending on the values of leaders in office, competing policy issues, and the funding picture.

Finally, consistent with the development of needed implementation strategies, sometimes the actual intervention becomes less important in producing the wanted effect than the implementation assistance offered for the intervention. In short, the intervention might never be implemented, but outcomes might improve because of important assistance offered by the developers or change agents (Bikson and Eveland, 1992, 1998; Bikson et al., 1997; Eveland and Bikson, 1989).

Rather than a simple theory of change, this literature points to a very complex process that might or might not lead to implementation and improved student outcomes because of the multiple factors and actors that are involved. It also indicates that mutual adaptation between the designs and the schools might be very beneficial if it leads to the ultimate goals of the initiative—improved student performance. It could be harmful if it only results in extreme local adapta-

tion with little increase in internal coherence evident in the schools. In short, the goal is to gain improved outcomes, not to faithfully implement the model. But, if the model is not implemented and the goals are met, one must look elsewhere for the cause of improvement.

RAND's Conceptual Framework

The framework portrayed in Figure 1.2 is an attempt to capture the complex system of variables that is at the heart of educational change. This framework is explicated in greater detail in Berends and Kirby et al. (2001); Kirby, Berends, and Naftel (2001); and Berends et al. (2002). Here, we highlight some of the relationships that are important from a policy perspective.

The right side of the figure represents NAS's theory of action and the designs' theory of action. NAS's core premise is that *coherent, focused, and sustained* implementation of key design components by school-level personnel (including professional development, curriculum and instructional materials, content and performance standards, assessments, organization and governance, and parent and community involvement) will eventually change *school and classroom learning environments and thereby students' academic outcomes.* Implementation consists of the process of putting into practice the elements or set of activities defined by design teams as core components of their design. However, both implementation and outcomes are themselves affected by a number of interrelated factors, many of which are not readily controlled by NAS or its design teams. These factors are shown in the boxes in the left side of the figure and further discussed below:

- *The design itself and its ability to offer coherent, comprehensive, and consistent education programs and assistance to ensure implementation.*

    — To accomplish the goal of improving performance, each design team has embedded in it a "theory of action" that establishes a link between elements of the design and student performance. Designs range from relatively specific

School Context
- Demographic composition
- Size
- Level

District Context
- Leadership stability
- Focus and centrality
- Resources
- Rules/regulations

Other Factors
- Federal and state context
- Testing and accountability
- Community context
- NAS funding and policies

School Capacity
- Other reforms
- Teaching capability and experience
- Prior achievement
- Student mobility
- Principal leadership

Selection Process
- School needs
- Communication
- Choice of design
- Teacher support/buy-in

Designs and Design-Based Assistance
- Specificity/complexity of design
- Clear communication
- Assistance provided
  - Materials
  - Time
  - Staff
  - Technology

Coherent Design Implementation
- Professional development
- Instructional strategies
- Content and performance standards and assessments
- Organization and governance
- Parent and community involvement

Student Outcomes
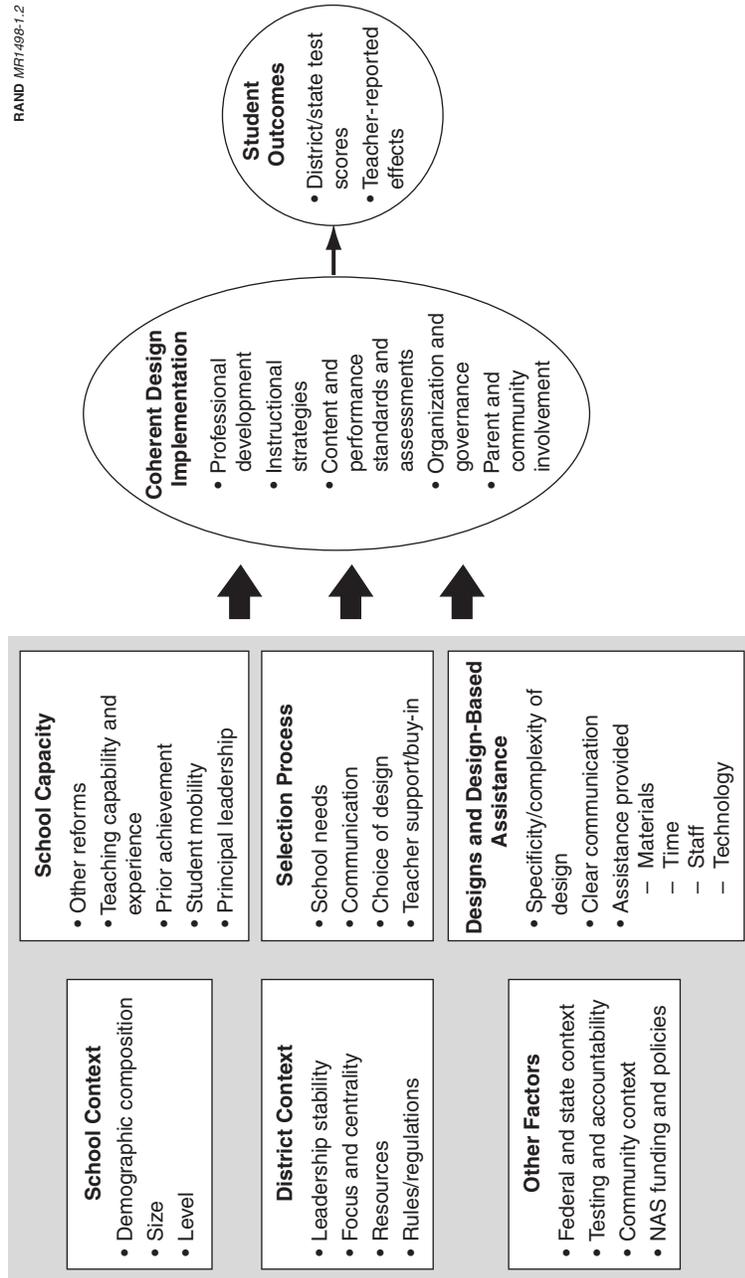- District/state test scores
- Teacher-reported effects

Figure 1.2—A Conceptual Framework for Analyzing Implementation Progress and Performance in NAS Schools

descriptions of how schools should be organized and what-materials and professional development should be relied on to less specific visions and processes for school restructuring. Implementation is likely to be related to the inherent features of the designs themselves, the ability of the design teams to clearly communicate the design components, and the type of assistance they provide during implementation. For example, a highly specified design such as Roots & Wings (RW) provides an abundance of print materials, assessments, professional development, and specified organizational changes. In contrast, some of the other NAS designs are more process oriented. For instance, Expeditionary Learning Outward Bound (EL) is less structured than RW and is based on design principles that reflect the design's origins in the Outward Bound program. Teachers play a critical role in developing the expeditions, which involves a great deal of effort and imagination.

— Clear communication by designs to schools is critical for not only the selection of the design, but also the implementation of it. Fullan (2001) emphasizes that clarity of the change is an important factor affecting implementation; the more complex the reform, the greater the need for clarity. Communication to schools both in the selection and implementation process can take several different forms, including design fairs, print materials, use of computer software and the Internet, workshops, retreats, school visits, and site-based facilitators.

— The unique aspect of design-based assistance is the commitment of the designs to provide ongoing assistance to provide a variety of services to further implementation and the transformation of the whole school—its organization, curriculum, instruction, and professional development of staff. For implementation of any program, resources are critical (Keltner, 1998; McLaughlin, 1990). It is a common finding that when resources decrease or disappear, the implementation is likely to diminish (Glennan, 1998; Montjoy and O'Toole, 1979). If teachers receive the funds, the professional development from design teams for design implementation, the materials to support implementation, and the time to plan and de-

velop the program, it is likely that implementation will deepen over time.

- *The efficacy of the selection and matching process between designs and schools to ensure teacher "buy-in" to the design.* How schools go about selecting a design has implications for the implementation that follows (Bodilly, 1998; Ross et al., 1997). For example, if a school were forced to adopt a design without careful assessment of its needs, it is not surprising that teachers would resist engaging in the activities of the design. Yet, some schools are often targets for forced restructuring efforts, particularly those that exhibit chronic poor performance. Thus, a critical aim of the NAS designs before implementation even begins is to obtain the buy-in of teachers for the planned restructuring activities. Most of the designs require between 75–80 percent of the teachers voting in favor of the designs. The rationale is that if the vast majority of the staff vote to adopt the design, they will commit to making the changes necessary during the implementation process.

- *The capacity of the specific schools for undertaking the reform including the schools' past and current efforts at reform, educational leadership, and teaching capability.*

  — Schools that are committed to change and have made previous efforts at reform are likely to be more successful at implementing the whole-school reform design. However, if too many reforms are being attempted (for example, state- or district-mandated curricular changes), the capacity of the school to implement the design may be seriously undermined as the school's staff and time is spread too thin.

  — Teachers are the "street-level bureaucrats" at the core of educational change (Weatherley and Lipsky, 1977) and as Fullan succinctly stated, educational change depends on "what teachers do and think—it's as simple and as complex as that" (Fullan, 2001, p. 115). Researchers have also pointed to the importance of working relationships among teachers in implementation of change: collegiality, open communication, trust, support, learning on the job, and morale are closely interrelated (Fullan, 2001; Rosenholtz, 1989).

— The capacity of the school to improve student performance is adversely affected by low prior achievement of its students and high student mobility. Several studies have shown that changes in schooling activities are related to mobility patterns between schools, and preexisting levels of students' academic achievement, attitudes, and engagement in school (Berends et al., 1999; Koretz, 1996; Meyer, 1996).

— Research has consistently shown that the principal strongly influences the likelihood of change (Fullan, 2001; Berman and McLaughlin, 1975). For example, in their study of innovations in the teaching of science in 60 elementary schools, Hall et al. (1980) concluded that "the single most important hypothesis emanating from these data is that *the degree of implementation of the innovation is different in different schools because of the actions and concerns of principals*" (p. 26, emphasis in original). However, there is general consensus that direct principal influence is by itself not a powerful influence on change; rather principals "facilitate" the process of change. For example, leadership of the principal may translate into the ability to obtain sufficient resources for the school and support teachers in their efforts to implement change.

- *School-specific demographics, structure, and climate.* Characteristics of schools are also likely to influence the adoption of schoolwide designs and their effects on student learning: for example, the school's "structural" characteristics such as the minority and socioeconomic composition of the school, school size, and school level (elementary, middle, and high school).

  — Schools that face challenges in terms of poverty may encounter difficulties with restructuring efforts such as whole-school designs because high-poverty schools may lack the necessary resources to provide a quality education (Lippman et al., 1996), because students may have lower levels of engagement, effort, and aspirations (Hoffer, 1992; Ralph, 1990; Fordham and Ogbu, 1986), and because teachers may not have the kinds of support they need to foster collaborative relationships necessary for school improvement efforts (Hoffer, 1992; Berends and King, 1994). While policymakers focus on the "lever" at the school level to manipulate to im-

prove learning opportunities and performance, several studies have shown the importance of student background in the learning process (see Coleman et al., 1966; Jencks et al., 1972; Gamoran, 1987, 1992; Bryk, Lee, and Holland, 1993).

— Other school structural factors (size and level) may inhibit schoolwide implementation of schoolwide reforms. For example, larger schools and secondary schools are more complex organizations and are likely to resist organizational change (Perrow, 1986; Lee, Bryk, and Smith, 1993; Lee and Smith, 1995, 1997).

- *District contexts including the existing infrastructure supports and incentives for design implementation and improved student performance.* District-level politics, policies, and practices may promote or derail schoolwide reform efforts such as the NAS designs.

  — The district can facilitate and foster change by providing resources for the school and for professional staff development, and showing active support for schools implementing designs.

  — Moreover, while crucial, central office political support and attention can be buttressed by significant changes in regulatory and financial practices. Schools attempting reforms to address their particular problems can be supported through increased site-level control over their curriculum and instruction, their budgets, their positions and staffing, and most essentially their mission.

  — Comprehensive school reform requires the rethinking and adoption at the school level of new curriculum and instructional approaches and the accompanying professional development. District flexibility in allowing schools to pursue this rethinking is a critical aspect for design-based schools.

- *Other factors.* Those who have studied implementation of educational programs have pointed to other factors that affect implementation such as the federal and/or state policy environment, testing and accountability reforms, and the larger community context (e.g., Elmore and Rothman, 1999; Berends et al., 1999; Grissmer and Flanagan, 1998; Fullan, 2001).

— In particular, the new standards and accountability regimes being adopted by almost every state are likely to fuel expectations of immediate improvements in student outcomes; designs may well be abandoned or at least marginalized if they fail to meet these unrealistic expectations.

— In the case of NAS, these other factors would also include NAS funding and policies, which critically influenced the strategy for development and scale-up.

— The support of the larger community and parents is likely to affect implementation as well (Fullan, 2001). Parent and community demand for reform, their readiness for it, and their ongoing support of it have important ramifications for implementation (Berends and King, 1994; see also Jennings, 1996, 1998).

However, at the beginning of the research, much was unknown. The NAS initiative was, and in some ways remains, a developmental effort without strong controls over the environment. One part of the RAND research was to measure implementation and outcomes; just as importantly, the other part was to understand the factors that affected those outcomes and the interrelationships among these factors themselves.

RAND'S PROGRAM OF STUDIES OF NEW AMERICAN SCHOOLS

This section provides a brief overview to the entire set of RAND studies conducted over the first nine years of the NAS initiative. This program of studies is summarized in Table 1.2. As NAS matured over time, the focus of the RAND studies also shifted from issues of development and early implementation of designs in demonstration schools to scale-up issues, implementation in a larger set of schools, and student outcomes.

Development and Demonstration Phase

During the earliest period, the program of study concerned primarily understanding the differences and similarities among designs and the implications for implementation of designs in real schools

Table 1.2

Phases of NAS and RAND's Program of Studies

Phase/Time	Purpose	Approach	Sample	Data Sources	Measures	Contribution	RAND Publications
Demonstration July 1993– July 1995	Compare & contrast designs; track progress & indicate issues	Longitudinal comparative case studies of design teams using qualitative analysis	9 teams, 32 schools, at least 2 for each team; National Alliance sites included schools at all grade levels within a district	Document review; interviews with design leads; survey of principals; nested interviews for each site from district to teachers two years in a row; site observations	No measures; Identify elements of design & levels of complexity of designs by coverage of elements & needed interactions to attain implementation	Identified notions of: process vs. product teams; design specificity; design-based assistance; implementation issues; lack of district support	Bodily et al., 1995; Bodilly, 1996; Mitchell, 1996

Table 1.2—continued

Phase/Time	Purpose	Approach	Sample	Data Sources	Measures	Contribution	RAND Publications
Scale-up July 1995– July 1997	Measure & analyze progress toward implemen-tation	Longitudinal comparative case studies of design teams using qualitative analysis	7 teams 40 schools, at least 4 schools each, including elementary & secondary as possible; random selection	Document review; interviews with design leads; survey of principals; nested interviews for each site from district to teachers 2 years in a row; site observations; resources analysis	Implementation index based on progress toward design-specific elements	Showed contrast in progress by design & by district support; raised quality assurance issues; indicated types & quantity of resources required	Bodilly, 1998; Keltner, 1998; Bodilly & Berends, 1999

Table 1.2—continued

Phase/Time	Purpose	Approach	Sample	Data Sources	Measures	Contribution	RAND Publications
Scale-up March 1997– June 1999	Measure & analyze progress toward implemen- tation & improved performance	Quantitative analysis of longitudinal sample of schools	7 teams; target sample of 184 schools in 7 districts actively implementing designs; complete longitudinal response from 71 schools from 1997–1999	Survey of all principals; survey of teachers; collection of quantitative outcome data	Two indices of implementation based on teachers' reports; a core index that included five common elements across all designs; a design team– specific index that included elements unique to specific designs; school level measures of performance based on district- wide mandated tests	Identified factors affect- ing implemen- tation & performance including principal leadership, resources, teacher support for design teams, design team capacity & district policies	Berends, 1999, 2000; Berends & Kirby et al., 2001; Kirby, Berends, & Naftel, 2001

Table 1.2—continued

Phase/Time	Purpose	Approach	Sample	Data Sources	Measures	Contribution	RAND Publications
Scale-up April 1998– September 1999	Analyze factors leading to classroom implementation & effects on student achievement	Quantitative & qualitative analyses of NAS & non-NAS elementary classrooms within a high-poverty district	All 64 elementary schools in San Antonio district, 279 classrooms, 3,823 students; RAND sample of 23 schools; 63 classrooms; 861 students with wide array of data	Survey teachers; classroom observations; interview teachers, instructional guides, school & district staff; collect teacher logs & samples of student work; administer Stanford-9 open-ended reading test to 4th graders; district longitudinal data on student demographics & test scores, teacher & school characteristics	Student level achievement on RAND-administered test and state-mandated tests; classroom instruction practices consistent with designs	Identified complexity of reform progress & role of district in high-stakes environment & high-poverty, low-performing schools	Berends et al., 2002

Table 1.2—continued

Phase/Time	Purpose	Approach	Sample	Data Sources	Measures	Contribution	RAND Publications
Scale-up March 1999–June 1999	Analyze factors leading to schools with high implementation, but low performance outcomes	Case studies of schools indicated by teams as highly implementing	7 matched pairs of elementary schools; matched by district, demographics & purported levels of implementation	Level of implementation from designs; nested interviews for each site from district to teachers	Consistency between observed level of implementation and that reported by design teams	Inability to obtain target sample precluded strong analysis; pointed to concerns over design team knowledge of site conditions & implementation issues; indicated multiple factors affecting performance other than design	Chun, Gill, & Heilbrunn, 2001

Table 1.2—continued

Phase/Time	Purpose	Approach	Sample	Data Sources	Measures	Contribution	RAND Publications
Ongoing research October 1992–October 1998	Track & analyze changes to designs & design teams & NAS	Longitudinal case study analysis of designs starting with 11 & declining to 7; longitudinal analysis of NAS development	NAS and designs over period	Document review; interviews with design teams; review by teams & NAS; interviews with NAS staff; observations at NAS conferences, meetings, and briefings	Analyzed reasons for changes including: planned development, gradual adaptation to meet needs of sites, adaptation to conflicting policies	Showed significant changes in teams over time; points to importance of district, teacher, & student factors as causative in evolution of designs	Glennan, 1998; Bodilly, 2001

(Bodilly et al., 1995). This research was based on a review of the relevant literature, content analysis of design documents, and extended interviews with designers.

From 1993 to 1995 the research focused on whether and under what conditions the design teams could implement their designs in demonstration sites. It also provided considerable feedback to both NAS and the design teams as to issues and challenges that were arising in the demonstration sites (Bodilly, 1996; Mitchell, 1996). This research was based on literature review, content analysis of the design documents, interviews with design teams, interviews with district and school staff who were involved in implementing the design in 32 different schools, and a survey of principals.

Scale-Up Phase

In 1995, RAND began an assessment of the scale-up of NAS designs to many schools. While NAS intended partnerships with ten jurisdictions, by the 1995–1996 school year, partnerships where schools were actually beginning to implement designs were only evident in the following jurisdictions: Cincinnati, Ohio; Dade County, Florida; Kentucky; Memphis, Tennessee; Philadelphia, Pennsylvania; Pittsburgh, Pennsylvania; San Antonio, Texas; and three districts in Washington state.[3] The RAND assessment of the scale-up phase was confined to these jurisdictions. This longitudinal assessment of the scale-up phase covered years 1995 to 2000 and addressed three major questions:

- What was the level of implementation in NAS schools?

- What impeded or facilitated that implementation?

- Did the adoption of NAS designs result in any changes to student and school outcomes?

Over this time period, RAND's program of studies included a longitudinal study that examined implementation and performance

---

[3]At the time we decided on the longitudinal sample of schools, Maryland and San Diego were not far enough along in their implementation to warrant inclusion in RAND's planned data collection efforts. Since then, several of the design teams report that they are implementing in Maryland and San Diego.

changes across the entire group of schools implementing designs in the partner jurisdictions; case studies of schools; and a classroom study of implementation and performance in a specific district.

Longitudinal Study of Implementation and Performance (Berends and Kirby et al., 2001; Kirby, Berends, and Naftel, 2001). At the beginning of scale-up, there were 184 schools that were implementing the NAS designs in the eight partnering jurisdictions. We collected a variety of data to monitor the progress in implementation and performance in the NAS sites: (a) teacher surveys administered to all the teachers in the NAS schools; (b) principal phone interviews; and (c) data provided by districts on school performance indicators (e.g., mandated test scores, attendance rates, promotion and drop out rates, and school demographic characteristics). The final sample of schools analyzed, about 70–100 schools, was smaller than the original 184 due to nonresponse, panel attrition, and schools dropping the designs. Survey data were collected in 1997, 1998, and 1999 and provide information two, three, and four years after the scale-up. In addition, in 1999, schools that had dropped their previously adopted design in either 1998 or 1999 were surveyed regarding the reasons for the decision. About 30 schools responded.

Implementation Case Studies (Bodilly, 1998; Keltner, 1998; Bodilly and Berends, 1999). The sample for the case studies consisted of 40 schools in seven districts. The schools were fairly representative of NAS schools in general and included urban and rural schools and districts; elementary, middle, and high schools; and schools that were well-resourced as well as schools that were not. The research encompassed site visits to each of these schools; a review of archival data (such as documents produced by design teams, schools, and districts; plans for transformation; and news releases); structured interviews with district and school staff; school data on enrollment, demographics, and test scores; and classroom observations and observations of special events if they had application to the design.

Classroom Study in San Antonio (Berends et al., 2002). The in-depth classroom study in San Antonio addressed the following questions: (1) Do the NAS designs extend beyond changes in school organization and governance and permeate classrooms? (2) Do NAS teachers and students interact with each other and subject materials in ways that reflect the innovative curricular and instructional approaches of

the design teams? and (3) What factors at the district, school, and classroom level are related to implementation of designs, changes in classroom instruction, and student achievement? The schools in this study were those involved in the early stages of the district's partnership with NAS including: Co-NECT (CON), Expeditionary Learning Outward Bound (EL), Modern Red Schoolhouse (MRSH), and Success for All/Roots & Wings (RW).[4] We gathered a variety of data about NAS and non-NAS schools and classrooms, including: principal and teacher surveys conducted at the end of the 1997–1998 and 1998–1999 school years; interviews with district staff, design team leaders, local facilitators, principals, and teachers; classroom observations; illustrative examples of student work; student, teacher, and school data provided by the district on individual test scores and student and teacher demographic characteristics; and achievement data from a supplementary test administered to students (Stanford-9 open-ended reading).

Further Case Studies (Chun, Gill, and Heilbrunn, 2001). The scale-up studies indicated that sites did not make as much progress in student achievement as NAS had hoped, and that progress did not appear to be closely related to implementation. As a result, with the help of the four design teams that agreed to participate (ATLAS, CON, MRSH, and RW), RAND selected a sample of matched pairs of elementary schools, one of which had shown increases in student performance and the other of which had not. Both were at similar levels of implementation (as judged by the designs). The research included site visits and interviews with principals, teachers, and district officials. Data were collected from the design teams about the schools as well as from the districts and the schools themselves.

––––––––––––––

[4]While Success for All (SFA) has been around for the past couple of decades, NAS provided funding to the Success for All Foundation to develop and implement RW, which not only includes the reading program of SFA, but also builds in other curricular programs such as MathWings and WorldLab. San Antonio schools were only implementing the SFA component of RW during the time of this study. Because the Success for All Foundation considers all SFA schools as potential RW schools and because NAS provided funding for RW, we refer to this design as "RW."

Ongoing Research

Over the entire period, RAND has tracked the changes to the designs and changes in NAS as an organization. Changes in designs were documented in an analysis of the evolution of the design teams (Bodilly, 2001). The purpose of this study was to document changes to the designs over their life (1992–1998) and the reasons for those changes to better understand the likely contribution of these designs to improving student outcomes. The study used historical analysis of the design documents, interviews with design teams, and notes from site visits conducted over a period of time to establish changes that had occurred. We used the original proposals submitted in response to NAS's Request for Proposals (RFP) as the baseline for making comparisons. Similarly, Glennan (1998) described the changes NAS had undergone over the early time period.

CAVEATS AND LIMITATIONS

The research and analysis reported here was undertaken on behalf of a client involved in an experiment to engineer strong designs for schools. The use of the term experimental does not mean a controlled environmental research design with careful measures. It refers to the NAS's successive attempts to develop and engineer a strong product called a whole-school design that would produce the outcomes NAS desired. This included successive efforts to learn what might have gone wrong in previous attempts and to try again. NAS was interested in promoting real teams working in real schools in real districts attempting to create designs in real time. At no time did the NAS agenda or those of schools and districts allow for an experimental research design with options for random selection or assignment of students, teachers, schools, or districts, although this approach was often suggested.[5] Nor did the strategies NAS adopted allow for pure control sites within a longitudinal framework.

---

[5]The Annenberg Foundation paid for RAND and NAS to have an Advisory Board to help construct the analyses to be done. This board and RAND often suggested alternative means for analyzing the issues facing NAS including the development of a unique set of student assessments geared toward the performance goals of the teams, experimental designs, and strong control groups. While considered, NAS never funded these efforts for practical reasons: it did not have the financial wherewithal to

Therefore, the analyses reported here were adapted to the complex realities of the unfolding situation. They can be thought of as "action-based research" during the developmental phase of an intervention. The RAND research on NAS has the usual characteristics of such an approach:

- It allowed for a systemic view of the initiative from the teachers and students implementing the reforms to the district administrators trying to support them to design teams and NAS decisionmakers attempting to improve the reforms.

- It provided early information from front-line implementors on how to improve the effort.

- Because of crude measures and the inability to control the environment, it did not produce fine distinctions among the influences of different independent variables, nor fine grained measures of outcomes. It did provide information on the effects of influences, but could not measure their magnitude.

Each of the pieces of the RAND program of analysis provides an important building block toward a full understanding of the NAS initiative. Deficiencies in methodology, documented in the individual reports themselves, are more than compensated for by the in-depth understanding of all the different components of the initiative that the approach provided, by the ability to draw out the general relationships between the many parts of the system being constructed, and by the illuminating insights into real practice in real situations. Taken together, the set of RAND studies provides a cogent, consistent, and broad examination of the NAS initiative and offers useful and timely information to decisionmakers considering whole-school reform.

ORGANIZATION OF THIS STUDY

The rest of this book is divided into sections dealing with each major research phase and study. Chapter Two relies on RAND research from the development, demonstration and scale-up phases to de-

---

do so and it would have caused political problems to challenge the districts on this issue.

scribe the development of NAS, largely taken from Glennan (1998). It focuses on NAS as a whole and its evolution. Chapter Three focuses on changes to designs over the same period of time. It provides a synopsis of the findings concerning evolution of the designs based on Bodilly (2001). Chapter Four discusses the findings from the scale-up phase on implementation and the factors related to it. It relies both on our quantitative studies (Berends, 2000; Berends and Kirby et al., 2001; Kirby, Berends, and Naftel, 2001) as well as the qualitative data from our case studies (Bodilly, 1998; Chun, Gill, and Heilbrunn, 2001). Chapter Five discusses the findings concerning implementation and performance in a high-poverty urban school district, focusing on classroom instruction (Berends et al., 2002). Chapter Six describes in more detail the progress that NAS designs made in terms of raising students' academic achievement during the scale-up phase with results from school- and student-level analyses (Berends and Kirby et al., 2001; Berends et al., 2002; Chun, Gill, and Heilbrunn, 2001). Chapter Seven discusses the policy implications from RAND's studies on New American Schools for policymakers and practitioners at the federal, state, and local levels. The Appendix covers the methodologies used in the individual tasks and should be referred to by readers interested in more details than presented here.

The chapters list the contributors to the individual reports on which each chapter is based.

Afterword

This study concludes with an afterword by New American Schools. This afterword provides an update on NAS's new strategy and an overview as to where NAS stands today. This afterword represents NAS's point of view. It did not go through the rigorous peer review process that all RAND publications undergo.